



Montana Fish, Wildlife & Parks

Region 4
4800 Giant Springs Road
Great Falls, MT 59405

April 5, 2017

Dear Interested Party:

Montana Fish, Wildlife & Parks (FWP) proposes to stock North Fork Highwood Creek (NFHC) above a constructed barrier with Westslope Cutthroat Trout (WCT) to help conserve WCT. The Highwood Creek drainage was part of the historical range of WCT until stocking of non-native trout occurred in the early 20th century. A barrier was constructed in 2011 and non-native fish were removed above the barrier to expand WCT in NFHC. Currently, the Highwood Creek drainage supports non-hybridized WCT in three populations that occupy less than five miles of stream; there will be an additional 2 – 3 miles upstream of the constructed NFHC barrier. FWP proposes transferring pure WCT eyed eggs and/or juvenile and adult WCT to NFHC from pure WCT populations in the Highwood Mountains. In addition, starting in 2017, 500 sterile hatchery-raised M012 WCT will be stocked upstream from the constructed barrier until a wild population is established. Sterile fish would be used to help conserve the NFHC WCT genome while jump-starting the fishery.

This EA is available for review on the FWP internet website <http://fwp.mt.gov/news/publicNotices/> or from the address below.

FWP invites you to comment on the attached proposal. Public comments will be accepted until Monday May 8, 2017 at 5PM. Comments should be sent to the following:

Montana FWP, LARO
Anne Tews
P.O. Box 938
Lewistown, MT 59457.

Or emailed to antews@mt.gov.

Sincerely:

A handwritten signature in cursive script, appearing to read "Gary Bertellotti".

Gary Bertellotti
Region 4 Supervisor

Montana Fish, Wildlife and Parks
1420 E 6th Ave, PO Box 200701 Helena, MT 59620-0701
(406) 444-2452

ENVIRONMENTAL ASSESSMENT CHECKLIST

PART 1. PROPOSED ACTION DESCRIPTION

Project Title: North Fork Highwood Creek Westslope Cutthroat Trout re-introduction

Project Location: The project site is located in Chouteau County approximately 16 miles from the town site of Highwood, Montana; T20N, R9E, Sec34, 35, 36 (Figure 1). North Fork Highwood Creek is located in the Lewis and Clark National Forest.

Description of Project:

Receiving water:

Name: North Fork Highwood Creek, Chouteau County

Donating Water:

Name: North Fork Highwood Creek, and/or Big Coulee Creek, Smith Creek, North Fork Little Belt Creek, Cottonwood Creek.

Location: 47.4512°N, -110.5489°W; 47.4256°N, -110.5668°; W47.4881°N, -110.6112°W, 47.4171°N, -110.6457°W; 47.4455; -110.47722 Chouteau County

Montana Fish, Wildlife & Parks (FWP) proposes to stock North Fork Highwood Creek (NFHC) above a constructed barrier with Westslope Cutthroat Trout (WCT) (*Oncorhynchus clarkii lewisi*) to help conserve WCT. The Highwood Creek drainage was part of the historical range of WCT until stocking of non-native trout occurred in the early 20th century. A barrier was constructed in 2011 and non-native fish were removed above the barrier to expand WCT in NFHC. Currently, the Highwood Creek drainage supports non-hybridized WCT in three populations that occupy less than five miles of stream; there will be an additional 2 – 3 miles upstream of the constructed NFHC barrier. FWP proposes transferring pure WCT eyed eggs and/or juvenile and adult WCT to NFHC from pure WCT populations in the Highwood Mountains. In addition, starting in 2017, 500 sterile hatchery-raised M012 WCT will be stocked upstream from the constructed barrier until a wild population is established. Sterile fish would be used to help conserve the NFHC WCT genome while jump-starting the fishery.

The pure WCT eyed eggs and/or juvenile and adult WCT would be transferred to NFHC from North Fork Highwood Creek, Big Coulee Creek, Smith Creek and/or North Fork Little Belt Creek or Cottonwood Creek. Historically, WCT populations in Big Coulee, Cottonwood Creek and North Fork Little Belt creeks were robust enough to allow transfer of juvenile and adult fish without any impact to the genetic integrity of the donor populations. New surveys

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will be conducted on the donor streams to evaluate current WCT status. The nearest neighbor WCT to NFHC is Big Coulee Creek. Smith Creek also has WCT that originated from the Big Coulee population (Webster and Moser 2016). Up to 10% Age 1 from Smith Creek could be moved. If Big Coulee origin fish are not available for transfer, North Fork Little Belt Creek or Cottonwood Creek (Arrow drainage) are potential donors. To help conserve the NFHC genome at least 75% of the fish transferred or used in remote site incubators (RSIs) would initially be from NFHC. For RSI's, eggs would be collected from spawning WCT by backpack electrofishing or trapping during spawning season over the next 2-5 years or for as long as deemed necessary, if problems arise with egg quality or low fertilization. Ideally, eggs would be collected from five to ten females and spawned with up to 3 times as many male WCT. Fertilized eggs would be hatched in NFHC using RSIs. Juvenile and adult WCT may be transferred in addition to, or instead of, using RSI's over the next 2-5 years, or for as long as necessary. No more than 10% of adult fish would be collected from any population in one year. Adult fish from NFHC or Smith Creek would not be used unless the adult population surpasses 200 fish. No more than 20% of juvenile fish would be collected from any population in one year. Other Missouri River WCT populations may be used if unanticipated issues (e.g., presence of disease, genetics issues, or reduced population abundance) prevent the use of the aforementioned populations as donor streams. Mixing of individuals from two populations will prevent potential founder effects caused by low genetic diversity in donor populations. FWP predicts that NFHC will support over the 2,500 minimum WCT population size recommended by Hilderbrand and Kershner (2000) for long term persistence (>100 years) in 2 – 3 miles of stream. All transfers from other populations would follow wild fish transfer protocols. New genetic samples may be needed from some populations.

Need:

A small tributary to NFHC upstream of the barrier has pure WCT and was last tested for genetics in 2015 (Leary et.al 2015). From 2012 to 2014, three piscicide treatments proved unsuccessful in removing all brook trout downstream of the pure WCT population. In 2015, NFHC was thoroughly shocked upstream of the constructed barrier; main NFHC was shocked 5 times, the tributaries were shocked 3 times, and the upper section was shocked 9 times. During these surveys, five brook trout were found, all in the upper section, immediately below the natural partial barrier (Webster and Moser 2016). In 2016, NFHC was electrofished above the constructed barrier multiple times and no brook trout were captured. eDNA sampling is scheduled in 2017 to further confirm brook trout have been eradicated above the constructed barrier. During the 2015 and 2016 NFHC surveys, very few WCT were captured below the natural barrier; the two miles of stream above the constructed barrier were essentially fishless in 2016. Brook trout are common downstream of the constructed barrier. NFHC is easily accessible by trail and currently only provides fishing opportunities downstream of the constructed barrier. The fish removal EA (Moser 2010) and decision notice (11/29/2010) stated that a fishery would return to the treated area within 5 years (2017), so it is necessary to accelerate WCT repopulation of this reach using sterile hatchery WCT.

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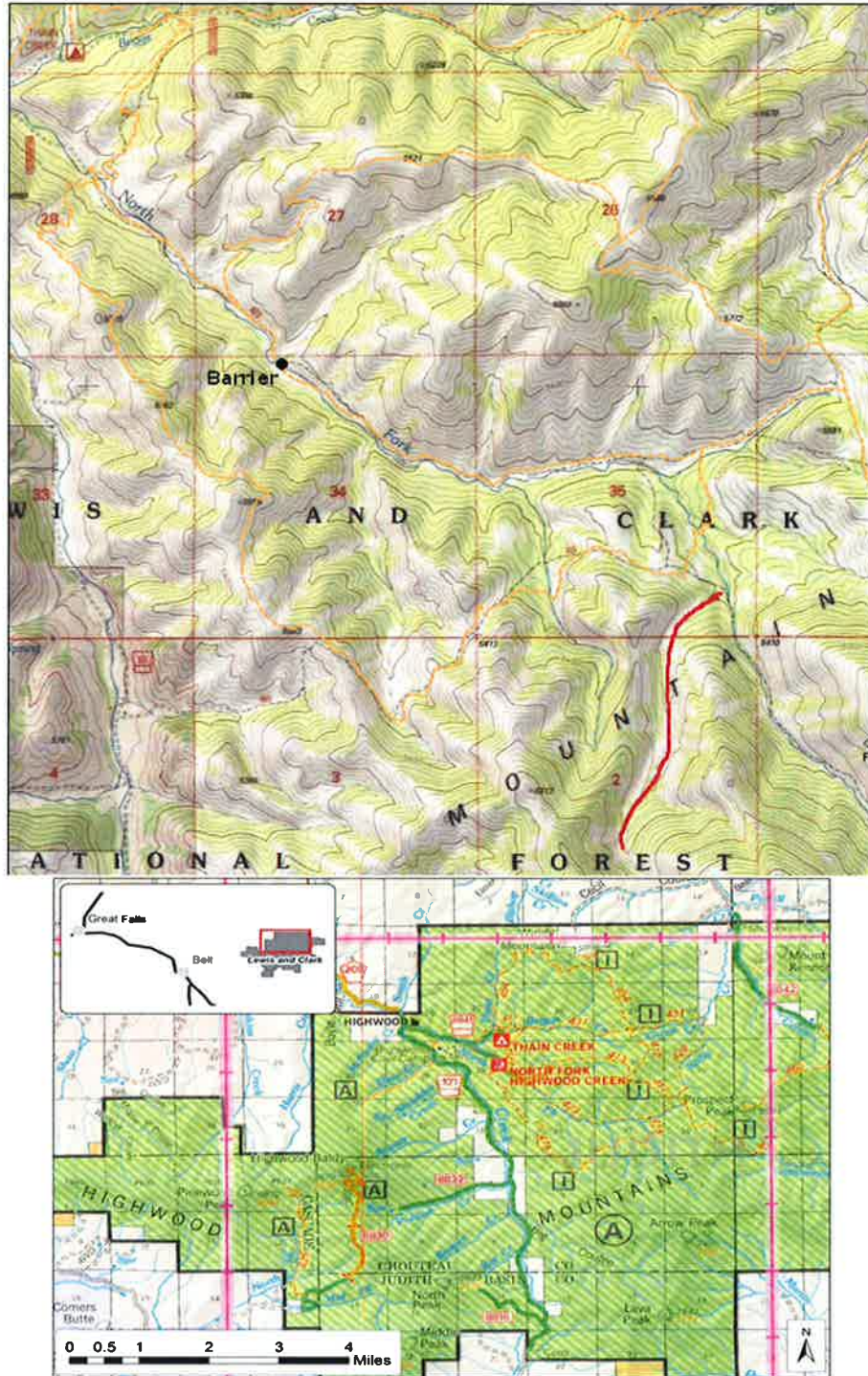


Figure 1. Barrier and WCT isolet (red) population on North Fork Highwood Creek with location map. Section lines represent 1 mile distance. Yellow dashed line is USFS trail system.



Figure 2. Constructed barrier on North Fork Highwood Creek.

References:

Hilderbrand, R.H. and J. L. Kershner. 2000. Conserving inland cutthroat trout in small streams: how much stream is enough? *North American Journal of Fisheries Management* 20:513-520.

Leary, R., S. Painter and A. Lodmell. 2015. University of MT Conservation Genetics Laboratory Report, 4744.

Webster, K and D. Moser. 2016. Northcentral Montana Westslope Cutthroat Trout Restoration Project. 2015 Cost Share report. MFWP, Great Falls, Mt.

PART 2. ENVIRONMENTAL REVIEW

Table 1. Potential impact on physical environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Unique, endangered, fragile, or limited environmental resources			X			1-1 Benefit
2. Terrestrial or aquatic life and/or habitats			X			1-2 Benefit
3. Introduction of new species into an area				X		1-3
4. Vegetation cover, quantity and quality				X		
5. Water quality, quantity and distribution (surface or groundwater)				X		
6. Existing water right or reservation				X		
7. Geology and soil quality, stability and moisture				X		
8. Air quality or objectional odors				X		
9. Historical and archaeological sites				X		
10. Demands on environmental resources of land, water, air & energy				X		
11. Aesthetics				X		

Comments

1-1; 1-2; Stocking wild WCT above the constructed barrier will increase the number of WCT in NFHC more quickly than if natural repopulation occurs by WCT drifting downstream from above the natural barrier. Utilization of fish from NFHC and the aforementioned populations would increase genetic diversity. Live fish transfers and eyed eggs transfers have successfully established WCT cutthroat populations in the past in other streams in northcentral and southwest Montana. Several measures will be taken to reduce and mitigate any potential impacts to the aquatic habitat. The FWP wild fish transfer policy will be followed. WCT will not be transferred from other streams until approved by the FWP Fish Health Committee. Disease samples will be collected from any donor stream used for live fish transfer (except NFHC). Additional genetic samples may be needed prior to transfers due to an extended period without samples (NF Little Belt) or recent incursions of non-native fish above constructed barriers (Cottonwood Creek/Big Coulee Creek).

1-3; WCT historically inhabited about 55 miles of stream in the Highwood Creek drainage. The proposal will speed restoration of WCT in two miles of NFHC. To comply with the EA and decision notice regarding the NFHC trout removal a fishery should be established in 2017. Sterile WCT would be used to prevent hybridization with non-native fish and to help conserve the NFHC genome.

Table 2. Potential impacts on human environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Social structures and cultural diversity				X		
2. Changes in existing public benefits provided by wildlife populations and/or habitat			X			2-2 Benefit
3. Local and state tax base and tax revenue				X		
4. Agricultural production				X		
5. Human health				X		
6. Quantity and distribution of community and personal income				X		
7. Access to and quality of recreational activities			X			2-7 Benefit
8. Locally adopted environmental plans & goals (ordinances)				X		
9. Distribution and density of population and housing				X		
10. Demands for government services				X		2-10
11. Industrial and/or commercial activity				X		

Comments

2-2; 2-7; Stocking WCT in NFHC above the constructed barrier will increase fishing opportunity in 2 miles of NFHC. It will likely take several more years for a fishery to develop if the stocking does not occur.

2-10; Transfers will be done by FWP employees as part of their regular duties.

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Does the proposed action involve potential risks or adverse effects which are uncertain but extremely harmful if they were to occur? No. Standard protocols will be followed for fish transfers.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant? No.

Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action when alternatives are reasonably available and prudent to consider. Include a discussion of how the alternatives would be implemented:

1) No Action:

The 1 – 2 miles of NFHC immediately above the constructed fish barrier would remain fishless or nearly fishless for longer, likely several years. Under the no action alternative, WCT in Big Coulee Creek, North Fork Little Belt or Cottonwood Creek would not be replicated and any unique adaptations would not be preserved.

2) Proposed Action:

Sterile hatchery WCT would be stocked as necessary to develop and maintain a population for angling followed by stocking of local WCT for conservation purposes. The local WCT would be obtained from above the natural barrier on NFHC and from one or two of the following streams: North Fork Little Belt Creek, Big Coulee Creek, Smith Creek or Cottonwood Creek. The donor stream would be replicated, reducing the risk of extinction in the event of a catastrophic wildfire, disease, drought, or unforeseen hybridization with non-native fishes. A fishery would be quickly established that would increase recreation in about 1.5 miles of NFHC immediately above the constructed barrier

Environmental Conclusion Section: Is an EIS required? No, the action is expected to provide beneficial impacts to the human and physical environment by increasing fishing access and reducing the risk of extinction of NFHC and a donor WCT population in the Highwood Mountains.

Other groups or agencies which may have overlapping jurisdiction; United States Forest Service

Individuals or groups contributing to, or commenting on, this EA: Dave Moser, Lee Nelson, Grant Grisak. Public notification via the FWP website; <http://fwp.mt.gov/news/publicNotices/>

EA prepared by: Anne Tews

Date Completed: April 5, 2017

Email address for comments: antews@mt.gov

Mail comments to: Anne Tews; P.O. Box 938, Lewistown, MT 59457

Comments due by: May 8, 2017